CLAIMS

What is claimed is:

1. An integrated circuit arrangement that is susceptible to data corruption caused by a local magnetic field, the integrated circuit arrangement comprising: an integrated circuit 100; a data-storage arrangement having a plurality of mini magnets adapted to store logic states in response to electrical control signals; and an integrated circuit package 106 enclosing the integrated circuit 100 and including a magnetic device 120 adapted to generate a local magnetic field that is sufficiently strong to alter the logic state of at least one of the mini magnets in response to a portion of the magnetic device 120 being removed.

2. The integrated circuit arrangement of claim 1, wherein integrated circuit package and the magnetic device are arranged to direct the local magnetic field away from the plurality of mini magnets.

3. The integrated circuit arrangement of claim 2, wherein the magnetic device is adapted to exhibit a fringing magnetic field in response to a portion of the magnetic device being removed, the at least one of the plurality of mini magnets being exposed to the fringing field.

4. The integrated circuit arrangement of claim 1, wherein a portion of the local magnetic field of the magnetic device is aligned to an easy axis of the mini magnets.

5. The integrated circuit arrangement of claim 4, wherein the integrated circuit package includes a magnetic shield arrangement around the integrated circuit, and wherein the magnetic shield arrangement includes the magnetic device.

6. The integrated circuit arrangement of claim 5, wherein the integrated circuit has opposite-facing top and bottom sides, and wherein the magnetic device is located adjacent the bottom side and the mini magnets are located in the top side.

7. The integrated circuit arrangement of claim 6, wherein a fringing magnetic field from the magnetic device fringes out from the magnetic path in response to a portion of the magnetic device being removed.

8. The integrated circuit arrangement of claim 2, wherein the at least one of the plurality of mini magnets changes magnetic state in response to the local magnetic field from the magnetic device.

9. The integrated circuit arrangement of claim 2, wherein the at least one of the plurality of mini magnets changes polarity in response to the local magnetic field from the magnetic device.

10. The integrated circuit arrangement of claim 1, further comprising a sensing circuit adapted for resistively responding to a change in the magnetic state of the at least one of the mini magnets.

11. The integrated circuit arrangement of claim 10, wherein the sensing circuit exhibits a first resistance in response to the at least one of the mini magnets being in a first state and exhibits a second resistance in response to the at least one of the mini magnets being in a second state.

12. The integrated circuit arrangement of claim 11, wherein the sensing circuit includes a transistor having a channel region exhibiting a conductance, the conductance of the channel region being responsive to the state of the mini magnet, wherein a current path through the channel exhibits the first and second resistances in response to the at least one of the mini magnets being in first and second states, respectively.

13. The integrated circuit arrangement of claim 1, wherein the data-storage arrangement is adapted to store a bit as a function of each of the plurality of mini magnets, the bit having a value that is directly related to the magnetic state of the mini magnets and, in response to the local magnetic field, the bit taking on a value of a magnetic state that is responsive to the local magnetic field.

14. The integrated circuit arrangement of claim 1, wherein at least a portion of the magnetic device is outside the package.

15. The integrated circuit arrangement of claim 1, wherein the integrated circuit package includes a magnetic shield, the package is in relatively close proximity to, and surrounds, both the magnetic device and the data storage arrangement, and wherein the magnetic device is relatively distal to the data storage arrangement.

16. The integrated circuit arrangement of claim 1, further comprising a write circuit adapted to write a logic state to at least one of the plurality of mini magnets by magnetizing the at least one mini magnet, the logic state being susceptible to being changed in response to the local magnetic field.

17. The integrated circuit arrangement of claim 16, wherein the write circuitry is adapted to write a first logic state to the at least one mini magnet by magnetizing the mini

magnet in a first direction, and to write a second logic state to the at least one mini magnet by magnetizing the mini magnet in a second direction.

18. The integrated circuit arrangement of claim 1, wherein the magnetic device is adapted to generate a local magnetic field that sets a magnetic state of at least one of the mini magnets in response to a portion of the integrated circuit package being removed.

19. The integrated circuit arrangement of claim 18, wherein the magnetic device is adapted to generate a local magnetic field that sets the magnetic state of at least one of the mini magnets to a first magnetic state.

20. The integrated circuit arrangement of claim 17, wherein the magnetic device is adapted to generate a local magnetic field that switches the magnetic state of the at least one of the mini magnets from a second magnetic state to the first magnetic state.

21. An integrated circuit memory arrangement adapted to store data that is susceptible to data corruption caused by a local magnetic field, the integrated circuit arrangement comprising: a plurality of mini magnets adapted to store a logical state as a function of the magnetic state of the mini magnet; a plurality of word lines, each mini magnet being magnetically responsive to a signal applied to a word line for setting a magnetic state of the mini magnet; a plurality of sensing circuits, each sensing circuit exhibiting an electrical characteristic that is a function of the magnetic state of at least one of the mini magnets, the electrical characteristic being detectable for reading the logical state stored in the at least one of the mini magnets, an integrated circuit package including a magnetic device adapted to generate the local magnetic field with sufficiently strong fringe fields that, in response to the removal of a portion of the integrated circuit package, the local magnetic field sets the magnetic state of at least one of the mini magnets.

22. An anti-tamper arrangement adapted to protect a magnetically-responsive circuit node, the anti-tamper arrangement comprising: magnetic means for generating a local magnetic field and for directing the local magnetic field away from the magnetically-responsive circuit element; and the magnetic means further being adapted, in response to a portion of the magnetic means being removed, for generating a fringing magnetic field that causes the magnetically-responsive circuit node to take on a magnetic state.